ATARI
COMPUTER
ENTHUSIASTS
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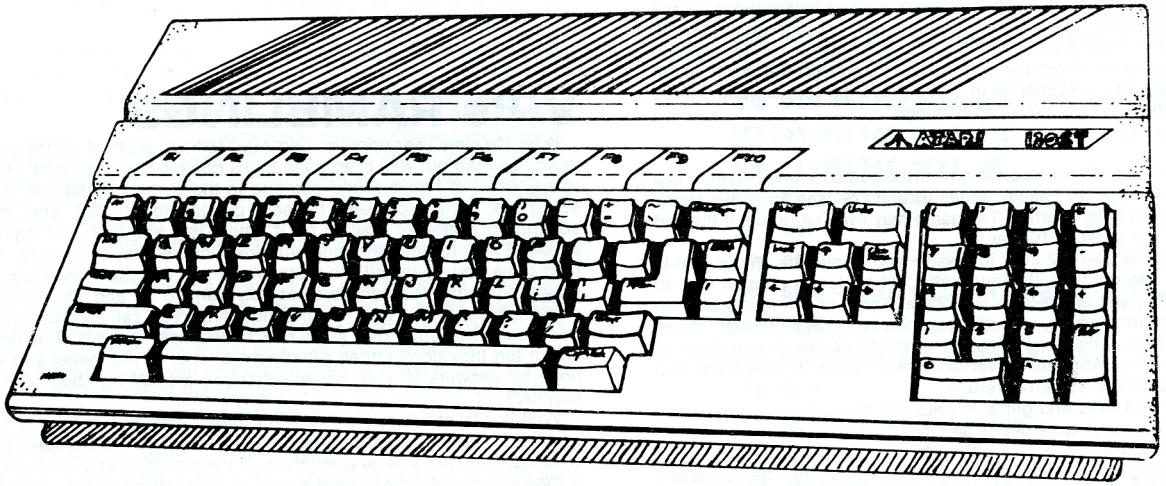


NEW COMPUTERS FROM ATARI

BUMPAS REVIEWS

FIELD OF FIRE (Avalon Hill, $30) is a one-player tactical game simulating eight small-unit infantry combat scenarios from WW2. Those of you familiar with Broderbund's **Operation Whirlwind** will notice some similarities in this game. Roger Damon designed them both, and Field of Fire is a further development and improvement on Operation Whirlwind.

Each game lasts an hour or two, and all player input is with the joystick. You give orders to your units in separate Fire, Movement and Assault phases. Operations occur during a "real-time" phase in which you must keep close track of the action in the battle. At any time, you may press the Select key to re-target your units' fire, or the Option key to order an assault.

The units are fire-teams of 1-6 men, or individual tanks. There are Headquarters, Rifle teams, Machine Gun crews, Bazooka/Panzerfaust teams, Mortar crews, Forward Observors, Engineers and Anti-Tank Guns. Each unit is identified by the name of its leader. The documentation describes each of these men. You might consider the information when giving each of them tasks to accomplish. The program provides an Editor to allow you to change the names of any of the 32 characters in the game.

There are 10 terrain types in the game, including roads, trees, ridges, hilltops, woods, buildings, streams and rivers, mountains and hedgerows. Terrain and distances may block the line of sight to a target. The map scrolls smoothly across 5 screens. Status messages appear at the top and bottom of the screen.

The 8 scenarios include a Night Patrol in Tunisia; Forever Road in Sicily; Omaha beach D-Day landing; Night of St. Anne to close a pocket on some Germans; Up From the Beach, breaking out of the beachhead; For Aachen, block-by-block clearing of a city; Ardennes Dawn, the last-ditch German counter-offensive; and Roeher Crossing, one of the last obstacles before the Rhine.

The last 8 pages of the 25-page manual is a detailed description of the actual "Night of St. Anne" written by the commander of L Company of the 3rd Battalion, 26th Infantry, 1st Division.

For players of wargames, this program is an excellent value for the money. The color, graphics and sound are appropriate and well-executed. It is really 8 games in one, as each scenario is complete in itself. The program offers the option of a "Campaign Game" in which you play each of the scenarios in order. Player performance is graded at 5 levels from Questionable to Strategic.

CONAN (Datasoft) is an action-adventure game for one player. It is a game in the "Famous Faces" series (Bruce Lee was an earlier item). All player input is by joystick. The game may even be re-run at the end by pussing the joystick trigger.

You are Conan, with 2 lives in reserve and 10 swords. "Your goal is to find and destroy the villainous Volta." The 7 levels contain foes to fight or avoid, and dangers to overcome. Some of the levels contain magical solutions which, nevertheless, can be figured out with observation and logic. The game is real-time, but there are no penalties for taking your time. And each level has "safe" areas in which you can rest to observe the screen carefully.

You may find keys and gems to help you along, but you may carry only one at a time. A large bird is an ally who will give you an extra life when you touch it.

The graphics are very well drawn, and in great detail. The colors and sound are appropriate. If you tire of the theme music, it can be toggled off. These 7 levels are not easy. They get progressively more difficult. I've only made it onto level 4 so far.

DungeonWare (Technimetrics Computing Services, Dept: The DungeonLair, S78 W22750 Terrace Drive, Big Bend, WI 53103) is a "freeware" service to Atari users who are also adventure gamers. They are writing shareable software and encourage you to distribute unmodified copies.

They also publish a newsletter, "DungeonLore", for $8 per year. You also receive one or two disks for the subscription price.

DungeonWare #1 is a Dungeons and Dragons character generator. #2 is an adventure game with sound and graphics called "Cavern of the Kings".

— Jim Bumpas, co-editor

THE NEW ATARIS

Atari has 4 new 8-bit computers and 2 new 16-bit computers which will put the PC market on its ear! The 8-bit machines are now called the "XE" line, and all are compatible with the XL software and peripherals out there. The 65XE is equivalent to the 800XL in a new case and without the parallel bus. The 65XEM is the same machine with a MIDI interface. The 65XEP is a portable with built in floppy drive and 5" monochrome monitor. The 130XE is an 8-bit machine with 131k RAM! The prices on these machines range from $99 to $199!

The 16-bit machines have the Motorola 68000 cpu, the GEM operating system, and a MIDI interface. You have your choice of BASIC or LOGO as a built in language. They have 4 video ports: TV, composite video, RGB, and monochrome. They have a floppy disk controller and a hard disk interface. Direct memory access is 1.33 Megabytes per second. They have 3-voice sound with frequency range from 30Hz to above audible range.

The keyboard has its own microprocessor with one touch cursor control and 18-key numeric keypad.

The ports include a Centronics parallel, RS232C, hard disk, floppy disk, 2 joystick ports (one configured for a 2-button mouse).

The graphics power includes an individually addressable 32k bit-mapped screen, 3 graphics modes with 512 colors. The highest resolution is 640x400 pixels!

The 130ST has 131k RAM and costs $399; the 520ST has 524k RAM and costs $599. Both come with 196k ROM, expandable to 327k with plug-in cartridges. Talk about the best of a Mindset and a Mac combined! And for ¼ the price! I just hope the production can keep up with demand. This machine will rule 1985 if it is produced in sufficient quantities.

— Jim Bumpas, co-editor

VP's RAMBLINGS

With the new year upon us and Atari telling us about all the good things coming our way everything looks good in computerland. I hate to say this but I have found one bug in the ointment, and this is instructions from software houses professing to tell you how something works, or how to do it. There you are, high and dry not knowing how to do something with instructions that don't work. The next thing you do is call the store where you bought it and they say they aren't sure you can do what you want to do and the software doesn't support that type of operation. Now you call around to your friends and find out if they know how to do what you want. Nine times out of ten they don't either. What now, a letter to the maker and you hope he answers or even knows what you are talking about. Sound familiar?

Well if this has happened to you I think I have one answer to this problem. The next time this happens you write to the software firm who made the program and tell them of the problems you encounterd. If they are of no help send me a copy of your letter and their reply we will keep them on file and if we get enough letters we will publish your complaints in the newsletter. Also tell the software firm that you will hesitate to buy their product in the future if they don't correct this type of problem and make their programs usable without having to resort to all kinds of extra help from them or others.

If all of us get together we can put pressure on the software houses to produce the type of programs we want and can use with the least amount of trouble.

Elsewhere in this issure is the first of the BUGBUSTERS. If you want to be a part of this group and know one form of computing real well let us know and we will put your name, address, phone no., and specialty on our list so people in your area can contact you for help.

If you have any further ideas on these subjects please let me know. My address is on the back of this newsletter.

— Larry Gold

DIF CONVERSION

SYNFILE + is the latest in filemanagement programs and in my opinion is the best. In the 3 years I have owned my ATARI, I have spent most of my time writing programs for data files. I am very familiar with ATARI's capabilities and limitations. SYNFILE + makes use of all of ATARI's attributes, including expanded memory.

I wrote a disk catalog program because the best filemanagement program was only able to search on the one main index field. The disk catalog program could search on three. I later modified the disk catalog program to be a VHS movie file in which 1250 records, the program, and the index, all resided on one disk.

SYNFILE +, although the program is on a seperate disk, has the ability to search on sixteen fields and the size of your file is only limited by memory for the index. It can search across disks.

Good-bye disk catalog, hello SYNFILE +. I decided I wanted my files in SYNFILE +. But I first had to convert my files to DIF (Data Interchange FILE) files, so I wrote a program to do so.

DIF files were originally set up by the people who wrote Visicalc in order to have a universal file structure to be used to transfer files between programs or between computers. Because of this structure (which I think was done a little backwards), it takes a long time to process data files. The DIF file is set up with rows and columns and the information is stored by column. All the information in the first column is written first, then the second column, and so on. When a data file is being converted, this means the information is written by field. The data file has to be read from beginning to end once for each field. If you have 16 fields, the file has to be read sixteen times. This is just to convert to DIF.

Then the file has to be loaded into SYNFILE +. I did 72 records which took 45 minutes. The DIF file winds up being much larger than the source file. If you have a full Filemanager data disk, the converted DIF file might not fit on one disk. For each field in your data file, there are at least 8 characters added to the DIF file plus some additional information to separate the fields.

One way around this is to create subfiles with Filemanager and do each subfile separately. In the conversion program I have included a function to break down large files into two smaller files. In addition, when SYNFILE + converts the DIF file to its own format, it has a minimum field length of 16 characters. This means if your data file has a field with 2 charaters, when SYNFILE + converts it, it will contain 16 characters. This can be modified back to 2 characters with Modify Form and Merge functions in the Synfile + program. The only thing I find I didn't like about SYNFILE + is the fact it doesn't give you any idea what is going on when it is converting DIF files. It could take an hour, or it could take 6 hours. You never know until it is done.

This BASIC program will automatically convert Filemanager files to DIF files and will also convert other DOS type files if you know the structure (number of fields, lengths, whether they are strings or numeric, and the number of records in the file). If you are converting a Filemanager file, simply insert the data disk and the program will give you a list of the files on the disk. You then select which file you want to convert.

The program will show you a list of the field names to make sure you have selected the right files. You will then be asked how many records you want to copy. This allows you to create 2 smaller DIF files from a very large data file. If you enter the same number as the total records, the conversion will only create one file. If you enter a number less than the number of records in the file, the coverion will create one file with the number of records you entered and another file with the rest of the records.

Next you will be asked for the name of the output file. After all these entries have been made, the program will proceed to write the DIF file, displaying the field and record numbers as it goes along.

At the beginning of the program you will be asked if you want to convert a Filemanager file or other. If you select other, you will be asked questions about the fields and file names. Then it will again start to create the DIF file.

After the DIF file has been created, load Synfile, remove the Synfile disk, insert the disk with the DIF file on it, and then select the "DIF to Syfile" function. You should now see the name you selected for your DIF file. Press RETURN and the rest is up to Synfile. This process could take quite a while to complete.

The file the Synfile creates will have field names such as "A", "B", "C", etc. Any field which had 16 characters or less will now have 16 charaters. Another thing you will find is the conversion only differentiates between character fields and numeric fields. Any fields with special features in Filemanager such as computed, repeating, or dollars will now simply be text or numeric. This is not a problem because you can change them back with Synfile's "Edit Form"functions.

It is important for you to follow the right sequence when modifying the form. The first thing you must do is to change the field names back to what they were or what you want them to be, BEFORE changing the lengths or types, save the new form. Now you can edit the same form again and modify the lengths and types. DO NOT change the names of the fields during the second modification. If you do, you will loose information. If you want to add or delete a field, you must create a new form, using the same names for the fields you want to retain and using different names for fields you want to add.

Changing the field lengths or types makes it necessary to Merge the file into the new form. This is explained in the Synfile documentation. If you have a large file, only index the file on one field and set the index length to one character. This reduces the chance of running out of memory during the merge.

Well, I hope you enjoy using Syfile as much as I have,

— David Fuller

```
100 REM ************************
110 REM * Joystick Driver Demo *
120 REM * by Jonathan Buckheit *
130 REM ************************
140 REM
150 REM - Joystick Driver -
160 REM
170 JOYSTICK=ADR("h[illegible]i[illegible]x[illegible]
[illegible]")
180 REM
190 REM - Set up Screen -
200 REM
210 GRAPHICS 0:POKE 710,0:POKE 752,1:?

220 REM
230 REM - Set up Delta Change Array -
240 REM
250 DIM DELTA(7,1):FOR JB=0 TO 7:READ
DELTAX,DELTAY:DELTA(JB,0)=DELTAX:DELTA
(JB,1)=DELTAY:NEXT JB
260 DATA 0,-1,1,-1,1,0,1,1,0,1,-1,1,-1
,0,-1,-1
270 REM
280 REM - Put Character onto Screen -
290 REM
300 POSITION XPOS,YPOS:? "●";
310 REM
320 REM - Read Joystick -
330 REM
340 JB=USR(JOYSTICK,0):IF JB=8 THEN 34
0
350 REM
360 REM - Check Coordinates -
370 REM
380 DELTAX=XPOS+DELTA(JB,0):DELTAY=YPO
S+DELTA(JB,1):IF DELTAX<1 OR DELTAX>38
 OR DELTAY<1 OR DELTAY>22 THEN 340
390 REM
400 REM - Erase Old Character -
410 REM - Update Coordinates  -
420 REM
430 POSITION XPOS,YPOS:? " ";:XPOS=DEL
TAX:YPOS=DELTAY:GOTO 300
```

RALPH WALDEN

Teaches Assembly Language-#3

There's an old saying in assembly language programming (true in a lot of other languages as well): "You should never write the same code twice". With the use of MAC/65 and it's extensive macro capability, that's an easy thing to avoid. I have included two macros here to assist in adding and subtracting 2-byte integers. The action taken by the macro will depend on how many parameters you pass it. I will explain how to use the ADD macro; the SUBTRACT macro works the same way.

ADD NUMBER1 - will increment the 2-byte integer NUMBER1 by one.

ADD NUMBER1,NUMBER2 - will add the 2-byte integer NUMBER2 to the 2-byte integer NUMBER1 and store the results in NUMBER1.

ADD NUMBER1,NUMBER2,NUMBER3 - will add the 2-byte integer NUMBER2 with the 2-byte integer NUMBER1 and store the results in NUMBER3.

Note there are no comments included in the macro. Comments within macros take up space in the macro library while assembling, and reduce the overall available memory. If you are unfamiliar with MAC's macros, here are some tips to help you to understand how the macros work: A percent followed by a number refers to the parameter. The first parameter is %1, the second is %2, etc. %0 gives you the number of parameters. By using the .IF directive, we assemble only the section of code we need at time.

```
0100  .MACRO ADD
0110  .IF %0=1
0120  INC %1
0130  BNE @ADDEND
0140  INC %1+1
0150  @ADDEND
0160  .ENDIF
0170  .IF %0†1
0180  CLC
0190  LDA %1
0200  ADC %2
0210  .IF %0=2
0220  STA %1
0230  LDA %1+1
0240  ADC %2+1
0250  STA %1+1
0260  .ELSE
0270  STA %3
0280  LDA %1+1
0290  ADC %2+1
0300  STA %3+1
0310  .ENDIF
0320  .ENDIF
0330  .ENDM
0340  .MACRO SUBTRACT
0350  .IF %0=1
0360  LDA %1
0370  BNE @SUBEND
0380  DEC %1+1
0390  @SUBEND DEC %1
0400  .ENDIF
0410  .IF %0†1
0420  SEC
0430  LDA %1
0440  SBC %2
0450  .IF %0=2
0460  STA %1
0470  LDA %1+1
0480  SBC %2+1
0490  STA %1+1
0500  .ELSE
0510  STA %3
0520  LDA %1+1
0530  SBC %2+1
0540  STA %3+1
0550  .ENDIF
0560  .ENDIF
0570  .ENDM
```

— Ralph Walden

MONEY WARS

Home Accountant vs. Your Personal Net Worth:

I have been using Home Accountant for two years and after 4 or 5 versions, I still do not have anacceptable home accounting system. I was desperate when Mike Dunn loanedme a new program: Your Personal Net Worth. In I dived with boundless enthusiasm.

YPNW loads data in a few seconds, compared to HA's minute or more. It allows 4000 transactions per disk vs. 500 for HA. To add/change a budget category while entering checks in HA, you save the data, load a different program, then reload the data, change the category, save the data, load a program, reload the data. Five minutes of waiting before you can enter the nexttransaction. YPNW handles all these functions so the same operations take only a few seconds. I can also review a full screen of data at one time instead of browsing, one record at a time, as in HA. And check clearing is almost instantaneous.

HA's latest version takes 16 seconds per check; clear 100 checks and waste 25 minutes waiting! The previous version's updating was as fast as YPNW, but searching for data never found any. Continental Software tells me they have no plans to remedy this problem! Why, then, am I going to continue using HA instead of YPNW?

YPNW shows much promise but not as a full home accounting/tax record keeping system! The 4000 transactions per disk are at the sacrifice of information on each record. HA's checks allow "Paid to" (24 characters), as well as memo (25 characters) while YPNW allows 10 characters only to describe the reason/paid-to, etc. Try "Uncle Johnson's 50th wedding anniversary" in 10 characters! Ok! We can learn to abbreviate.

More serious: The YPNW manual says to deposit your paycheck's **net** pay and record taxes withheld into their own accounts. I contacted Scarborough Systems and asked how to keep track of gross income for tax purposes and yet handle tax, insurance and other deductions from a paycheck. They said to enter a **gross** deposit and transfer each deduction out of income to their respective accounts. When I mentioned this will prevent reconciling the gross amount with any deposit on the bank statement, they said true, but that's the way to do it anyway!

So much for matching your computer data to the bank's. HA handles the problem by allowing you to split any deposit into as many accounts as you want. I contacted Scarborough Systems and asked about other inconsistencies between the program and the instruction manual. The manual says to print accounts; I couldn't get the program to do it. The manual says posted entries may be corrected, but I couldn't. Scarborough said,"Yes, that's right."

The clincher comes when they told me they will not supply users with a back-up program disk, even fora fee. This means you have to send in your bad disk with $5 and probably wait 2 weeks before you can update or review your checks, stock records, property data, etc. I find this barely acceptable in a game and absolutely unacceptable for a program upon which I depend for budgeting and tax purposes!!! Scarborough Systems told me they have no plans to change this policy and no plans to correct any deficiency in this program in the near future.

If you want a program to balance checks, keep a record of personal property, or a simple record of stock purchases and sales, then YPNW may be for you. It is easy to use and it's quick. but as an income/tax keeping system, I feel you should look elsewhere.

HA is a much more complete system, slow and cumbersome as it may be. It will do the job if you have the patience and are not easily frustrated. I do NOT recommend subscribing to, or depending upon their phone help ($20 per year) because even when you can get through to them, you may wait 15 or 20 minutes on hold at your long-distance expense!

— Steve Golden

MULTIPLICATION FLASHO

```
100 REM **** MULTIPLICATION FLASHO ***
*
110 REM Jim A. Carr   26-Feb-84
120 REM
130 DIM DX(11),DY(11),S$(1400),T$(14),
RIGHT(12,12),WRONG(12,12)
140 GOTO 710:REM Skip around high spee
d routines.
150 REM ==== Start a new game
160 FOR PROB=1 TO 12:REM 12 problems p
er set.
170 REM ---- Select multipliers.
180 A=INT((MAX-1)*RND(0)+2)
190 B=INT((MAX-1)*RND(0)+2)
200 REM .... Use another problem if we
 got this one right already.
210 IF RIGHT(A,B)<2 THEN RETRY=0:GOTO
230
220 RETRY=RETRY+1:IF RETRY<5 THEN 180
230 AB=A*B:TIME=0
240 REM ---- Display the problem
250 POSITION 14,7:? #6;"    "
260 POSITION 14,7:? #6;A;"x";B
270 REM ---- Track joystick
280 TIME=TIME+1
290 X1=X:Y1=Y:REM Save last position
300 S=STICK(0)-4:X=X+DX(S):Y=Y+DY(S)
310 IF X<3 THEN X=3:REM Check for edge
.
320 IF Y<2 THEN Y=2
330 IF X>12 THEN X=12
340 IF Y>16 THEN Y=16
350 POSITION X1,Y1:? #6;"+";:REM Resto
re "+"
360 POSITION X,Y:? #6;"o";:REM Move "o
"
370 XY=(X-3)+10*(Y-2):REM Current answ
er
380 POSITION 15,8:? #6;"   "
390 POSITION 15,8:? #6;XY
400 FOR I=1 TO 40:NEXT I
410 REM ---- If trigger, check answer
420 IF STRIG(JS) THEN 280
430 IF XY=AB THEN 500
440 REM ---- Answer is wrong.
450 SOUND 0,100,10,8:WRONG(A,B)=WRONG(
A,B)+1:HITS=0
460 POSITION 15,8:? #6;"   "
470 POSITION 15,8:? #6;AB:FOR I=1 TO 1
30:NEXT I
480 SOUND 0,0,0,0:FOR I=1 TO 750:NEXT
I
490 POSITION 14,8:? #6;"     ":GOTO 58
0
500 REM ---- Answer is right.
510 SOUND 0,50,10,8:FOR I=1 TO 99:NEXT
 I
520 RIGHT(A,B)=RIGHT(A,B)+1
530 TIM=TIME:IF TIM>50 THEN TIM=50
540 SCORE=SCORE+2+(50-TIM)/10+(AB)/50
550 HITS=HITS+1
560 IF HITS=4 THEN GOSUB 660
570 REM ---- Display score
580 POSITION 15,11:? #6;"    "
590 POSITION 15,11:? #6;INT(SCORE+0.5)
600 POSITION 15,14:? #6;"    "
610 POSITION 15,14:? #6;INT(10*TIME/4.
65+0.05)/10
620 SOUND 0,0,0,0
630 IF STRIG(JS)=0 THEN 630:REM Wait i
f trigger is still pressed.
640 POKE 77,0:REM Kill atract mode.
650 NEXT PROB:RETURN
660 REM ==== Display pat on the back
670 I=14*INT(RND(0)*SEND+1)
680 POSITION 0,19:T$=S$(I-13,I):? #6;"
 ";T$
690 FOR I=50 TO 90:SOUND 0,100-I,10,8:
NEXT I
700 SOUND 0,0,0,0:HITS=0:RETURN
710 REM ==== Initial instructions
720 GRAPHICS 2+16
730 ? #6:? #6;"***** flash-o *****"
740 ? #6:? #6;"THE MULTIPLICATION"
750 ? #6:? #6;" FLASH CARD GAME"
760 FOR I=1 TO 1200:NEXT I
770 ? :? "WHAT IS THE HIGHEST MULTIPLI
ER"
780 ? "THAT YOU WISH TO USE (5 TO 12)"
;
790 INPUT MAX:IF MAX<5 OR MAX>12 THEN
770
800 REM ==== One time initialization
810 REM ---- Draw background.
820 GRAPHICS 1+16
830 ? #6;"  0123456789":? #6
840 FOR I=0 TO 14:IF I<10 THEN ? #6;"
";
850 ? #6;I;"0++++++++++":NEXT I
860 POSITION 14,10:? #6;"score"
870 POSITION 14,13:? #6;"time"
880 REM ---- Set up joystick move tabl
e
890 FOR I=1 TO 11:READ X,Y:DX(I)=X:DY(
I)=Y:NEXT I
900 DATA 1,1, 1,-1, 1,0, 9,9, -1,1,  -
1,-1, -1,0, 9,9, 0,1, 0,-1, 0,0
910 X=3:Y=2:GOSUB 1250
920 REM .... Zero answer counters.
930 FOR I=1 TO 12:FOR J=1 TO 12:RIGHT(
I,J)=0:WRONG(I,J)=0:NEXT J:NEXT I
940 REM ==== Start new game
950 SCORE=0:HITS=0
960 FOR SET=1 TO 4:REM 4 sets per game
.
970 POSITION 14,0:? #6;"set ";SET
980 POSITION 0,19:? #6;"PRESS start TO
 GO"
990 IF SET=1 THEN POSITION 0,21:? #6;"
PRESS option TO END"
1000 REM ---- Wait for START or OPTION
1010 IF PEEK(53279)=3 THEN 1140
1020 IF PEEK(53279)<>6 THEN 1010
1030 FOR I=1 TO 200:NEXT I
1040 POSITION 0,19:? #6;"
    ":REM 17 blanks
1050 POSITION 0,21:? #6;"
     ":REM 19 blanks
1060 GOSUB 150:REM Go play a set.
1070 NEXT SET
1080 REM ---- Display best & last scor
es
1090 LAST=INT(SCORE+0.5)
1100 IF LAST>BEST THEN BEST=LAST
1110 POSITION 0,18
1120 ? #6;"best ";BEST;" last ";LAST
1130 GOTO 940:REM Go start new game
1140 REM ==== Display right/wrong coun
ters
1150 GRAPHICS 0:POSITION 0,0
1160 ? "A*B 2  3  4  5  6  7  8  9 10
11 12"
1170 FOR A=2 TO 12:POSITION 0,A*2-2:?
A
1180 FOR B=2 TO 12
1190 POSITION B*3-2,A*2-2:IF RIGHT(A,B
) THEN ? RIGHT(A,B);:GOTO 1210
1200 ? ".";
1210 POSITION B*3-2,A*2-1:IF WRONG(A,B
) THEN ? WRONG(A,B);:GOTO 1230
1220 ? "-";
1230 NEXT B:NEXT A
1240 INPUT T$:END :REM Exit on RETURN
key
1250 REM ==== Move messages to string
1260 FOR I=1 TO 100:READ T$:IF T$="END
" THEN SEND=I-1:RETURN
1270 I14=I*14
1280 S$(I14-13,I14)="              ":R
EM 14 blanks
1290 S$(I14-13,I14)=T$
1300 NEXT I:RETURN
1310 REM ==== Pat-on-the-back messages
1320 REM Space for 100 14-character me
ssages
```

BLACKHOLE

```
1 REM ****************************
2 REM **        BLACKHOLE         **
3 REM **    Ed Schembri 12-84     **
4 REM ****************************
5 REM
10 GOTO 1160
20 REM
30 REM .      ** move!**
40 REM
50 POSITION 2,0:? "score->";SCORE
60 POKE KEY,MT:GET #1,M
70 IF M=155 THEN GOSUB 240:A=10:B=2:A1
=A:B1=B:POSITION A,B:? "■":CHR1=45:GOT
O 50
80 IF M=32 THEN GOSUB 690:GOTO 50
90 IF M=27 THEN GOSUB 530:A=10:B=2:A1=
A:B1=B:POSITION A,B:? "■":CHR1=45:GOTO
 50
100 IF  NOT (M=42 OR M=43 OR M=45 OR M
=61) THEN W=USR(BELL):GOTO 60
110 A=A+2*(M=42)-2*(M=43):B=B+2*(M=61)
-2*(M=45)
120 IF A<10 THEN A=10
130 IF A>28 THEN A=28
140 IF B<2 THEN B=2
150 IF B>20 THEN B=20
160 IF (B>2 AND B<20) AND M=42 THEN A=
28
170 IF (B>2 AND B<20) AND M=43 THEN A=
10
180 IF (A>10 AND A<28) AND M=61 THEN B
=20
190 IF (A>10 AND A<28) AND M=45 THEN B
=2
200 POSITION A1,B1:? CHR$(CHR1):LOCATE
 A,B,CHR:POSITION A,B:? CHR$(CHR+128):
CHR1=CHR:A1=A:B1=B:GOTO 50
210 REM
220 REM .      ** logic **
230 REM
240 LOCATE A,B,CHR:POSITION A,B:? CHR$
(CHR):IF CHR<>160 THEN W=USR(BELL):POP
 :GOTO 50
245 FOR PL=8 TO 0 STEP -1:SOUND 0,PL*4
4,10,PL:SOUND 1,PL*44+2,10,PL:FOR DLY=
1 TO 10:NEXT DLY:NEXT PL
250 X1=0:Y1=0:HIT=0:L=0:R=L:U=R:D=U
260 TRAP 450:X=A/2-5:Y=B/2-1:DIR=1*(X=
0)+2*(Y=9)+3*(X=9)+4*(Y=0)
270 ON DIR GOTO 280,290,300,310
280 U=A(X+1,Y+1):HIT=A(X+1,Y):D=A(X+1,
Y-1):GOTO 320
290 R=A(X-1,Y-1):HIT=A(X,Y-1):L=A(X+1,
Y-1):GOTO 320
300 U=A(X-1,Y+1):HIT=A(X-1,Y):D=A(X-1,
Y-1):GOTO 320
310 R=A(X-1,Y+1):HIT=A(X,Y+1):L=A(X+1,
Y+1)
320 IF HIT THEN EP$="H":GOTO 460
330 IF (R=1 AND L=1) OR (U=1 AND D=1)
THEN EP$="R":GOTO 460
340 IF  NOT (U=1 OR D=1 OR L=1 OR R=1)
 THEN 360
350 DIR=1*(R=1)+2*(U=1)+3*(L=1)+4*(D=1
):L=0:R=L:U=R:D=U:GOTO 270
360 ON DIR GOTO 370,390,410,430
370 X=X+1:IF X=9 THEN 470
380 GOTO 440
390 Y=Y-1:IF Y=0 THEN 470
400 GOTO 440
410 X=X-1:IF X=0 THEN 470
420 GOTO 440
430 Y=Y+1:IF Y=9 THEN 470
440 L=0:R=L:U=R:D=U:GOTO 270
450 EP$="R"
460 SCORE=SCORE+1:FOR FLASH=1 TO 10:GO
SUB 490:POSITION A,B:? EP$:NEXT FLASH
:RETURN
470 X1=(X+5)*2:Y1=(Y+1)*2:SCORE=SCORE+
2
480 P=P+1:FOR FLASH=1 TO 10:GOSUB 490:
POSITION A,B:? MKR$(P,P):POSITION X1,Y
1:? MKR$(P,P):NEXT FLASH:RETURN
490 FOR DLY=1 TO 30:NEXT DLY:POSITION
A,B:? " ":POSITION X1,Y1:? " ":FOR DLY
=1 TO 30:NEXT DLY:RETURN
500 REM
510 REM .      ** solve **
520 REM
530 LOCATE A,B,CHR:POSITION A,B:? CHR$
(CHR-128):POSITION 12,4:? "■":CHR1=32
540 A=12:B=4:A1=A:B1=B
550 POKE KEY,MT:GET #1,M
560 IF M=27 THEN LOCATE A,B,CHR:POSITI
ON A,B:? CHR$(CHR-128):RETURN
570 IF M=32 THEN GOSUB 690:GOTO 550
580 IF M=155 THEN 660
590 IF  NOT (M=42 OR M=43 OR M=45 OR M
=61) THEN W=USR(BELL):GOTO 550
600 A=A+2*(M=42)-2*(M=43):B=B+2*(M=61)
-2*(M=45)
610 IF A<12 THEN A=26
620 IF A>26 THEN A=12
630 IF B<4 THEN B=18
640 IF B>18 THEN B=4
650 POSITION A1,B1:? CHR$(CHR1):LOCATE
 A,B,CHR:POSITION A,B:? CHR$(CHR+128):
CHR1=CHR:A1=A:B1=B:GOTO 550
660 LOCATE A,B,CHR:IF CHR=160 THEN IF
HOLE=HOLES THEN POSITION A,B:? CHR$(CH
R):W=USR(BELL):GOTO 550
670 IF CHR=160 THEN POSITION A,B:? "□"
:CHR1=20:HOLE=HOLE+1:GOTO 550
680 POSITION A,B:? "■":CHR1=32:HOLE=HO
LE-1:GOTO 550
690 POSITION 2,22:? "Are you sure you
want to solve it?"
700 GET #1,AN:IF  NOT (AN=89 OR AN=78)
 THEN W=USR(BELL):GOTO 700
710 IF AN=78 THEN ? "↑□":RETURN
720 POP :? "↑□":LOCATE A,B,CHR:POSITIO
N A,B:? CHR$(CHR-128):POKE KEY,MT
730 FOR Y=1 TO 8:FOR X=1 TO 8:SOUND 0,
X*10+Y*15,10,10
740 LOCATE X*2+10,Y*2+2,EP$:IF EP$=32
AND A(X,Y)=0 THEN POSITION X*2+10,Y*2+
2:? ":":NEXT X:NEXT Y:GOTO 860
750 IF  NOT (EP$=20 AND A(X,Y)=1) THEN
 780
760 FOR D0=50 TO 0 STEP -1:SOUND 0,D0*
96,10,D0/5
770 POSITION X*2+10,Y*2+2:? " ":POSITI
ON X*2+10,Y*2+2:? "●":NEXT D0:NEXT X:N
EXT Y:GOTO 860
780 IF  NOT (A(X,Y)=1 AND EP$=32) THEN
 810
790 FOR D0=50 TO 0 STEP -1:SOUND 0,D0*
65,10,D0/5
800 POSITION X*2+10,Y*2+2:? "●":POSITI
ON X*2+10,Y*2+2:? "♦":NEXT D0:S=S+3:NE
XT X:NEXT Y:GOTO 860
810 FOR D0=50 TO 0 STEP -1:SOUND 0,D0*
84,10,D0/5
820 POSITION X*2+10,Y*2+2:? "■":POSITI
ON X*2+10,Y*2+2:? "┼":NEXT D0:NEXT X:N
EXT Y
830 REM
840 REM .      ** fini **
850 REM
860 SOUND 0,0,0,0:SCORE=SCORE+S:POSITI
ON 2,0:? "SCORE->";;SCORE:IF S=0 THEN
FOR BLS=1 TO 10:W=USR(BELL):NEXT BLS
870 POSITION 2,22:? "any key-play ag
ain..return-quit":GET #1,M:IF M=155
THEN POSITION 0,2:TRAP 32767:END
880 FOR X=1 TO 20:POSITION 0,23:? CHR$
(155):NEXT X
890 REM
900 REM .      ** set-up **
910 REM
920 POKE 709,202:? "K BLACKHOLE  by
Ed Schembri '84"
930 ? :? :? "Do you want: [1] you plac
e hole(s)                 [2] random p
lacement"
```

SOME USEFUL UTILITIES FROM B.A.S.I.C.

```
41 REM PICK LOTTERY BY STEPHEN E. SILVE
RBERG
4 ? "ß":POKE 82,1:POKE 83,37
5 POSITION 5,3:? "LOTTERY NUMBERS BY T
HE CARD              by S.E. Silverberg
":? :?
9 OPEN #1,4,0,"K:"
10 DIM L(45),C(45),A(5)
50 ? :PRINT "THIS PROGRAM IS FOR THE N
EW YORK     STATE LOTTERY -"
55 ? "IT WILL RANDOMLY PICK 6 NUMBERS
OUT  OF 44."
60 ? :PRINT "   THE LOGIC BEHIND THIS
PROGRAM -":? :? "THE N.Y.S. LOTTERY SE
LECTS 6 NUMBERS OUT OF 44.";
70 PRINT " THIS PROGRAM WILL SELECT 7G
AME CARDS OF 6 NUMBERS.  EACH NUMBERWI
LL APPEAR ONCE PER GAME CARD";
80 PRINT "       YIELDING A TOTAL OF 4
2 NUMBERS PLUS 2EXTRA NUMBERS.  THIS G
IVES A TOTAL OF44 NUMBERS."
81 ? :? "PRESS ANY KEY TO CONTINUE"
82 GET #1,A:? "ß"
85 ? :PRINT "ALL THE NUMBERS ARE CHOSE
N RANDOMLY  AS THEY ARE IN THE LOTTERY
.THEREFORE,YOU HAVE A VERY";
90 PRINT " HIGH PROBABILITY OF  GETTIN
G AT LEAST ONE OF THE 6 NUMBERSCHOSEN
ON ANY GAME CARD.";
100 PRINT "  A GOOD     CHANCE OF HAVI
NG 2 NUMBERS AND A FAIRCHANCE OF GETTI
NG 3 NUMBERS.";
101 ? "  YOUR   CHANCES OF GETTING 4,5
, OR 6 NUMBERS INCREASE IF YOU COMBINE
 3 SETS OF    GAME CARDS AND";
102 ? " THE EXTRA NUMBERS TO  PLAY 22
GAMES."
105 ? :? :? "PRESS ANY KEY TO CONTINUE
":GET #1,A:? "ß"
110 PRINT :PRINT :PRINT "          GOO
D LUCK!"
120 PRINT :PRINT :PRINT "   PLEASE FOR
WARD 5% OF YOUR WINNINGSTO ME.  THANK
YOU."
130 PRINT :PRINT
160 PRINT "   FOR OTHER LOTTERY SYSTEM
S WITH A  DIFFERENT GROUP OF NUMBERS T
O CHOOSE   FROM CHANGE LINES";
161 ? " 210 AND 250."
170 PRINT "   IF OTHER THAN 6 NUMBERS
ARE TO BE  PICKED - CHANGE LINES 350,
360, 370,  530, 620, 650."
180 ? :? :? "PRESS ANY KEY TO CONTINUE
":GET #1,A:CLOSE #1
190 ? "ß":? "PLEASE BE PATIENT":? "I A
M PICKING YOUR WINNING NUMBERS"
200 G=1:A=0
210 FOR I=1 TO 45:L(I)=0:C(I)=0:NEXT I
:REM RESET L & C
250 FOR K=1 TO 44
260 LET L(K)=INT(RND(1)*44)+1
270 IF (L(K)<1) OR (L(K)>44) THEN 260
280 IF C(L(K))=1 THEN 260:REM K USED
290 C(L(K))=1
300 NEXT K
350 FOR M=1 TO 37 STEP 6
360 FOR K=M TO M+4
370 FOR N=K+1 TO M+5
380 IF L(K)<L(N) THEN 420
390 LET T=L(N):L(N)=L(K):L(K)=T
420 NEXT N
430 NEXT K
440 NEXT M
450 J=43
460 FOR I=1 TO 44
470 IF C(I)=0 THEN L(J)=C(I):J=44
480 NEXT I:POKE 752,1
490 POSITION 21,10:PRINT "GAME CARD #
";G:PRINT
500 M=1
510 FOR A=65 TO 71
520 PRINT "GAME ";CHR$(A)
530 FOR N=M TO M+5:PRINT L(N);" ";:NEX
T N:PRINT :PRINT
560 P=1
620 M=M+6
630 NEXT A
640 POSITION 25,10:? "EXTRAS "
650 POSITION 25,11:PRINT L(43);" ";L(4
4)
690 FOR I=1 TO 5000:NEXT I:? "ß"
700 G=G+1:GOTO 210
```

```
100 GOSUB 9000:GRAPHICS 8+16:GOSUB 500
:COLOR 1
110 FOR Y=0 TO 95 STEP 6:PLOT 0,0:DRAW
TO 319,Y:PLOT 0,190:DRAWTO 319,190-Y:N
EXT Y
120 FOR Y=0 TO 190 STEP 6:PLOT 319,95:
DRAWTO 0,Y:NEXT Y
130 PLOT 0,191:DRAWTO 319,191
140 GRAPHICS 8+32:GOSUB 500
150 ? "To scroll picture up or down,"
160 ? "use the ↑ and ↓ keys."
165 ? "ESC key--back to MENU."
170 P=PEEK(764):IF P<14 OR P>15 THEN 1
70
180 GRAPHICS 8+16+32:GOSUB 500
200 SCR=PEEK(88)+256*PEEK(89)
210 SIZE=7640:LO=SCR+40:HI=SCR+SIZE
220 P=PEEK(764):IF P=15 THEN I=USR(SM,
SCR,LO,SIZE):I=USR(SM,HI,SCR,40):GOTO
220
230 IF P=14 THEN I=USR(SM,LO,SCR,SIZE)
:I=USR(SM,SCR,HI,40):GOTO 220
240 IF P=28 THEN RUN "D:MENU"
250 GOTO 220
500 SETCOLOR 2,0,0:SETCOLOR 1,0,14:RET
URN
8990 REM ---------------------------
8991 REM  MACHINE LANGUAGE LOADER
8992 REM  Shift Memory USR Routine
8993 REM I=USR(SM,SRC,DEST,SIZE)
9000 DIM SM$(102):SM=ADR(SM$)
9010 SM$="hh▯Dh▯Ch▯Fh▯Eh▯▯EC▯F▯D▯hK▯
H▯▼ed▯D▼eF▯F▯P▯▯CF▯E▯P▯▯CF▯E▯FD▯FJPM▯H
h▯G▯▼▯▼▯P▯▯CF▯EHPJ▯D▯FJPF▯GP▯▯CF▯EHJP▯"
9020 RETURN
```

```
5 DIM F1$(15),ST$(FRE(0)*0.85):GRAPHIC
S 0
7 ? :? :?
10 ? "WHICH FILE TO PRINT";:INPUT F1$
20 ? :? :? "HOW MANY COPIES";:INPUT N
30 OPEN #1,4,0,F1$
40 OPEN #2,8,0,"P:"
60 TRAP 500
70 GET #1,A:ST$(LEN(ST$)+1)=CHR$(A)
80 GOTO 70
500 IF PEEK(195)<>136 THEN ? :? "ERROR
 #";PEEK(195):END
505 CLOSE #1
510 FOR I=1 TO N
515 POSITION 2,15:? "PRINTING COPY #";
I;"  "
516 ? #2;ST$:? #2;CHR$(12);
517 NEXT I
520 CLOSE #2:END
```

XY PLOT by STAN OCKERS

```
10 REM ****************************
20 REM **          XYPLOT          **
22 REM **    PART OF XYGRAF        **
24 REM **   S. OCKERS  12/84       **
26 REM ** ACE Newsletter Feb. 84 **
28 REM **  3662 Vine Maple Dr.    **
30 REM **  Eugene, OR 97405       **
32 REM **     $12 year            **
34 REM ****************************
36 REM
38 GOSUB 1000:GOSUB 952:POKE 752,1:? C
HR$(125);" INITIALIZING":GOSUB 4000
40 MPTS=100:DIM FNM$(14),D$(20),E$(4),
A$(120),DAT$(4),X(MPTS),Y(MPTS),MARK(M
PTS),SX(MPTS),SY(MPTS)
50 DIM XSCL(11),YSCL(11),XTTL$(40),YTT
L$(24),GTTL$(40):DAT$=".DAT":OPEN #1,4
,0,"K:":POKE 16,112:POKE 53774,112
60 GRDFLG=0:STYFLG=0:MKER=0:GOSUB 3100
:E$="X 10"
70 VXL=45:VXR=295:VYT=13:VYB=163:XL=VX
L:XR=VXR:YT=VYT:YB=VYB
80 IF PEEK(1654)<>58 THEN 86
82 F=0:FOR J=1 TO 14:FNM$(J,J)=CHR$(PE
EK(1639+J)):IF FNM$(J,J)="." AND F=0 T
HEN L=J:F=1
84 NEXT J:FNM$=FNM$(1,L+3):GOSUB 702
86 REM * JUMP HERE IF NO FILENAME TO L
OAD *
99 REM * MENU *
100 POKE 752,1:? CHR$(125);"  XYPLOT M
ENU":? :? "(1) READ FILE":? :? "(2) PL
OT GRAPH & AXES"
110 ? :? "(3) LIST FILES ON DISK":? :?
 "(4) CHOOSE TITLES ETC.":? :? "(5) PL
OT ADDITIONAL CURVE"
115 ? :? "(6) DISPLAY GRAPHIC SCREEN "
:? "     (PRESS KEY TO RETURN)"
120 ? :? "(7) PRINT GRAPH ON PRINTER":
? :? "(8) CLEAR GRAPH SCREEN":? :? "(9
) ENTER/MANIPULATE DATA"
130 IF LEN(FNM$)>0 THEN POSITION 10,22
:? "FILENAME=";FNM$(3)
150 GET #1,K:IF K<49 OR K>57 THEN 150
160 ON K-48 GOTO 700,380,1300,200,450,
970,170,175,180
170 GOSUB 1400:GOSUB 3000:GOTO 100
175 GOSUB 950:GOTO 100
180 RUN "D:XYENTRY"
199 REM * TITLES ETC. FOR GRAPH *
200 ? CHR$(125);" GRAPH CHOICES":? :?
"1 XMIN,XMAX,YMIN,YMAX ":? "    ";XM
IN;"  ";XMAX;"  ";YMIN;"  ";YMAX
210 ? :? "2 X-AXIS TITLE":? "     ";
XTTL$
212 ? :? "3 Y-AXIS TITLE":? "     ";
YTTL$
214 ? :? "4 GRAPH TITLE":? "     ";G
TTL$
216 ? :? "5 GRID ";:IF GRDFLG=0 THEN
 PRINT "NO"
218 IF GRDFLG=1 THEN ? "YES"
220 ? :? "6 GRAPH STYLE ";:IF STYFLG
=0 THEN ? "LINES- POINT TO POINT"
222 IF STYFLG=1 THEN ? "POINTS ONLY"
228 ? :? "SPACE RETURN TO XYPLOT MENU"
230 GET #1,K:IF K=32 THEN 100
231 IF K<49 OR K>54 THEN 230
232 ON K-48 GOTO 240,260,262,264,270,2
80
239 REM * NEW MIN OR MAX VALUES *
240 TRAP 40000:? CHR$(125);"  CHOOSE O
NE":? :? "(1) XMIN =";XMIN:? :? "(2) X
MAX =";XMAX
242 ? :? "(3) YMIN =";YMIN:? :? "(4) Y
MAX =";YMAX:? :? "SPACE RETURN TO CHOI
CES MENU"
244 GET #1,K:IF K=32 THEN 200
245 IF K<49 OR K>52 THEN 244
246 ON K-48 GOTO 250,252,254,256
250 TRAP 250:? CHR$(125):? :? :? "INPU
T XMIN  (";XMIN;") ";:INPUT XMIN:GOTO
240
252 TRAP 252:? CHR$(125):? :? :? "INPU
T XMAX  (";XMAX;") ";:INPUT XMAX:GOTO
240
254 TRAP 254:? CHR$(125):? :? :? "INPU
T YMIN  (";YMIN;") ";:INPUT YMIN:GOTO
240
256 TRAP 256:? CHR$(125):? :? :? "INPU
T YMAX  (";YMAX;") ";:INPUT YMAX:GOTO
240
260 ? CHR$(125):? :? :? "INPUT X-AXIS
TITLE ";:INPUT XTTL$:GOTO 200
262 ? CHR$(125):? :? :? "INPUT Y-AXIS
TITLE ";:INPUT YTTL$:GOTO 200
264 ? CHR$(125):? :? :? "INPUT GRAPH T
ITLE ";:INPUT GTTL$:GOTO 200
270 IF GRDFLG=0 THEN GRDFLG=1:GOTO 200
272 GRDFLG=0:GOTO 200
280 IF STYFLG=0 THEN STYFLG=1:GOTO 200
282 STYFLG=0:GOTO 200
299 REM * FIND HIGHEST & LOWEST VALUES
 *
300 XMIN=X(1):XMAX=X(1):YMIN=Y(1):YMAX
=Y(1)
320 FOR J=2 TO ENTR
322 IF MARK(J)>0 THEN 362
330 IF X(J)<XMIN THEN GOSUB 364:GOTO 3
00
340 IF Y(J)<YMIN THEN YMIN=Y(J)
350 IF Y(J)>YMAX THEN YMAX=Y(J)
360 IF X(J)>XMAX THEN XMAX=X(J)
362 NEXT J:RETURN
363 REM * ORDER X DATA SUBROUTINE *
364 ? :? "      Sorting":SFLG=0:FOR K=
1 TO ENTR-1:IF X(K+1)>=X(K) THEN 368
366 TEMP=X(K):X(K)=X(K+1):X(K+1)=TEMP:
SFLG=1:TEMP=Y(K):Y(K)=Y(K+1):Y(K+1)=TE
MP
368 NEXT K:IF SFLG=1 THEN 364
370 RETURN
379 REM * PLOT GRAPH AND AXES *
380 GOSUB 950:? :? "        SCALING"
382 MSDY=(YMAX-YMIN)/10:MSDX=(XMAX-XMI
N)/10
420 GOSUB 1500:GOSUB 1540:GOSUB 1400:G
OSUB 1600:GOSUB 1850:GOSUB 1550
430 IF STYFLG=0 THEN GOSUB 800
432 IF STYFLG=1 THEN GOSUB 820
440 GOSUB 952:GOTO 100
449 REM * DRAW ADDITIONAL CURVE *
450 GOSUB 1400:GOSUB 1540
452 IF STYFLG=0 THEN GOSUB 800
454 IF STYFLG=1 THEN GOSUB 820
456 GOTO 100
699 REM * READ A FILE *
700 ? CHR$(125):GOSUB 1200
702 TRAP 760:OPEN #2,4,0,FNM$:INPUT #2
,ENTR
710 FOR J=1 TO ENTR
720 INPUT #2;M,X,Y
730 MARK(J)=M:X(J)=X:Y(J)=Y
740 NEXT J:? :? :? "***** ";FNM$;" LOA
DED *****"
742 FOR J=1 TO LEN(FNM$):POKE 1639+J,A
SC(FNM$(J)):NEXT J
750 CLOSE #2:GOSUB 300:GOSUB 1370:TRAP
 40000:GOTO 100
760 ? :? :? "    ***** FILE NOT FOUND
*****":GOTO 750
799 REM * PUT CURVE ON SCREEN PT TO PT
 *
800 COLOR 1:FOR J=1 TO ENTR-1:IF MARK(
J)>0 THEN 812
810 X1=SX(J):X2=SX(J+1):Y1=SY(J):Y2=SY
(J+1):GOSUB 2230
812 NEXT J:RETURN
819 REM * PUT POINTS ON SCREEN *
820 COLOR 1:FOR J=1 TO ENTR:IF MARK(J)
>0 THEN 826
822 X=SX(J):Y=SY(J):IF X>XR OR X<XL OR
 Y>YB OR Y<YT THEN 826
824 Y=YB-Y+YT:GOSUB 830+MKER
826 NEXT J:MKER=MKER+2:IF MKER=8 THEN
```

```
MKER=0
828 RETURN
830 PLOT X,Y:PLOT X-2,Y-2:DRAWTO X+2,Y
-2:DRAWTO X+2,Y+2:DRAWTO X-2,Y+2:DRAWT
O X-2,Y-2:RETURN
832 PLOT X,Y:PLOT X,Y-2:DRAWTO X+2,Y:D
RAWTO X,Y+2:DRAWTO X-2,Y:DRAWTO X,Y-2:
RETURN
834 PLOT X,Y:PLOT X,Y-2:DRAWTO X+2,Y+2
:DRAWTO X-2,Y+2:DRAWTO X,Y-2:RETURN
836 PLOT X,Y:PLOT X,Y+2:DRAWTO X+2,Y-2
:DRAWTO X-2,Y-2:DRAWTO X,Y+2:RETURN
949 REM * CLEAR GRAPHICS SCREEN *
950 ? CHR$(125):RAMTOP=PEEK(106):POKE
106,INT(TOP+1/256):POKE 88,SC8LO:POKE
89,SC8HI:? CHR$(125):POKE 106,RAMTOP
952 GRAPHICS 0:DLIST=PEEK(560)+256*PEE
K(561):POKE DLIST+3,70:POKE DLIST+6,6:
RETURN
969 REM * DISPLAY GRAPHIC SCREEN UNTIL
 KEY PRESSED *
970 GOSUB 1400:POKE 764,255
972 IF PEEK(764)=255 THEN 972
974 GOSUB 952:GOTO 100
999 REM * SET ASIDE PLOTTING SCREEN *
1000 GRAPHICS 8+16:SAV8LO=PEEK(560):SA
V8HI=PEEK(561):RAMTOP=PEEK(106):POKE 1
06,(RAMTOP-33):SC8LO=PEEK(88)
1002 SC8HI=PEEK(89):TOP=RAMTOP:GRAPHIC
S 0:SC0LO=PEEK(88):SC0HI=PEEK(89)
1010 SAV0LO=PEEK(560):SAV0HI=PEEK(561)
:RETURN
1199 REM * INPUT FILENAME *
1200 POSITION 10,17:? "INPUT FILENAME"
;
1202 POSITION 9,18:? "D:        .DAT";
1210 P=3:POSITION 11,18:FNM$="D:"
1220 GET #1,K
1230 IF K=155 THEN 1280
1240 IF K=126 AND P>3 THEN P=P-1:FNM$(
P)=" ":? CHR$(K);
1242 IF K>96 AND K<123 THEN K=K-32
1250 IF ((K>47 AND K<58) OR (K>64 AND
K<91)) AND P<11 THEN FNM$(P,P)=CHR$(K)
:? CHR$(K);:P=P+1
1260 GOTO 1220
1280 FNM$(P)=DAT$:RETURN
1299 REM * SHOW .DAT FILES ON DISK *
1300 ? CHR$(125):OPEN #2,6,0,"D:*.DAT"
:TRAP 1340
1310 FOR K=0 TO 20 STEP 20
1330 FOR J=1 TO 22:INPUT #2;D$:POSITIO
N K,J:? D$;:NEXT J:NEXT K
1340 GOSUB 1370
1360 CLOSE #2:TRAP 40000:GOTO 100
1369 REM * STOP FOR SPACEBAR *
1370 POSITION 20,22:? "PRESS SPACEBAR"
;
1380 GET #1,K:IF K<>32 THEN 1380
1390 RETURN
1399 REM * SWITCH TO GR. 24 *
1400 SAVCTL=PEEK(559):POKE 559,0:POKE
560,SAV8LO:POKE 561,SAV8HI:POKE 88,SC8
LO:POKE 89,SC8HI:POKE 87,8
1410 POKE 559,SAVCTL:RETURN
1449 REM * SWITCH TO GR. 0 *
1450 SAVCTL=PEEK(559):POKE 559,0:POKE
560,SAV0LO:POKE 561,SAV0HI:POKE 88,SC0
LO:POKE 89,SC0HI:POKE 87,8
1460 POKE 559,SAVCTL:RETURN
1499 REM * FIND WINDOW-VIEWPORT TRANSF
ORMATION *
1500 WXL=XMIN:WXR=XMAX:WYT=YMIN:WYB=YM
AX
1520 WVXM=(VXR-VXL)/(WXR-WXL)
1522 WVXA=VXL-WXL*WVXM
1524 WVYM=(VYT-VYB)/(WYT-WYB)
1526 WVYA=VYB-WYB*WVYM
1539 REM * CALC POINTS FOR SCREEN *
1540 FOR J=1 TO ENTR:SX(J)=WVXM*X(J)+W
VXA:SY(J)=WVYM*Y(J)+WVYA:NEXT J
1542 RETURN
1549 REM * DRAW GRID & TITLES *
1550 MXL=295:MYL=13:IF GRDFLG=0 THEN M
XL=50:MYL=158
1551 COLOR 1:PLOT 45,13:DRAWTO 45,163:
DRAWTO 295,163:FOR YTL=13 TO 163 STEP
15
1552 PLOT 42,YTL:DRAWTO MXL,YTL:NEXT Y
TL:FOR YTS=16 TO 160 STEP 3:PLOT 45,YT
S:DRAWTO 50,YTS:NEXT YTS
1554 FOR XTL=45 TO 295 STEP 25:PLOT XT
L,166:DRAWTO XTL,MYL:NEXT XTL
1556 FOR XTS=45 TO 295 STEP 5:PLOT XTS
,163:DRAWTO XTS,158:NEXT XTS
1560 Y=184:L=LEN(XTTL$):IF L=0 THEN 15
64
1562 X=(40-L)/2:DADR=ADR(XTTL$):A=USR(
TADR,X,Y,DADR,L,L)
1564 IF EX<>0 THEN GOSUB 1592
1570 X=0:L=LEN(YTTL$):IF L=0 THEN 1574
1572 Y=(192-L*8)/2:DADR=ADR(YTTL$):A=U
SR(TADR,X,Y,DADR,L,1)
1574 IF EY<>0 THEN GOSUB 1596
1580 L=LEN(GTTL$):IF L=0 THEN 1590
1582 Y=0:X=(40-L)/2:DADR=ADR(GTTL$):A=
USR(TADR,X,Y,DADR,L,L)
1590 RETURN
1592 X=33:D$=E$:DADR=ADR(D$):A=USR(TAD
R,X,Y,DADR,4,4):X=X+4:Y=Y-4:D$=STR$(EX
):L=LEN(D$):A=USR(TADR,X,Y,DADR,L,L)
1594 RETURN
1596 Y=172:D$=E$:DADR=ADR(D$):A=USR(TA
DR,X,Y,DADR,4,2):X=X+2:Y=Y+4:D$=STR$(E
Y):L=LEN(D$):A=USR(TADR,X,Y,DADR,L,L)
1598 RETURN
1599 REM * DETERMINE EXPONENT & SCALE
VALUES *
1600 XSAV=XMAX:YSAV=YMAX
1608 XMAX=ABS(XMAX):IF XMAX>=1 AND XMA
X<10000 THEN EX=0:GOTO 1700
1610 IF XMAX>1000 THEN 1650
1620 FOR EX=-1 TO -50 STEP -1:X1=XMAX*
INT((10^-EX)+0.01)
1630 IF X1>1 THEN 1700
1640 NEXT EX
1650 FOR EX=1 TO 50:X1=XMAX/INT((10^EX
)+0.01)
1660 IF X1<10 THEN 1700
1670 NEXT EX
1700 YMAX=ABS(YMAX):IF YMAX>=1 AND YMA
X<1000 THEN EY=0:GOTO 1800
1710 IF YMAX>100 THEN 1750
1720 FOR EY=-1 TO -50 STEP -1:Y1=YMAX*
INT((10^-EY)+0.01)
1730 IF Y1>1 THEN 1800
1740 NEXT EY
1750 FOR EY=1 TO 50:Y1=YMAX/INT((10^EY
)+0.01)
1760 IF Y1<10 THEN 1800
1770 NEXT EY
1800 FOR J=1 TO 11:XSCL(J)=XSAV-(J-1)*
MSDX:YSCL(J)=YSAV-(J-1)*MSDY
1810 IF EX<0 THEN XSCL(J)=XSCL(J)*10^-
EX
1812 IF EX>0 THEN XSCL(J)=XSCL(J)/10^E
X
1820 IF EY<0 THEN YSCL(J)=YSCL(J)*10^-
EY
1822 IF EY>0 THEN YSCL(J)=YSCL(J)/10^E
Y
1830 NEXT J
1840 RETURN
1849 REM * PRINT SCALES *
1850 DADR=ADR(D$):X=2:Y=8:FOR J=1 TO 1
1:N=YSCL(J):XFLG=0:GOSUB 1900:A=USR(TA
DR,X,Y,DADR,LEN(D$),3):Y=Y+15:NEXT J
1860 X=5:FOR J=11 TO 1 STEP -1:Y=168:I
F (J/2)=INT(J/2) THEN Y=176
1862 N=XSCL(J):XFLG=1:GOSUB 1900:A=USR
(TADR,X,Y,DADR,LEN(D$),4):X=X+3:NEXT J
1890 RETURN
1899 REM * SCALE NUMBER *
1900 SIGN=0:IF N<0 THEN SIGN=1
1910 N=ABS(N):D$=STR$(N)
```

xy plot cont

```
1920 IF INT(N)<>N THEN D$(LEN(D$)+1)="
0000"
1930 IF XFLG=0 THEN IF LEN(D$)>3 THEN
D$=D$(1,3)
1940 IF XFLG=1 THEN IF LEN(D$)>4 THEN
D$=D$(1,4)
1942 L=LEN(D$):IF D$(L,L)="." THEN D$(
L,L)=" "
1950 IF SIGN=1 THEN FOR K=1 TO LEN(D$)
:D$(K,K)=CHR$(ASC(D$(K))+128):NEXT K
1960 RETURN
2220 REM * CLIPPING ROUTINE *
2222 REM * SEE ANALOG #2 P. 29 MAR/APR
 '81 (TOM HUDSON) *
2230 L1=0:L2=0:R1=0:R2=0:T1=0:T2=0:B1=
0:B2=0
2240 IF X1<XL THEN L1=1:GOTO 2260
2250 IF X1>XR THEN R1=1
2260 IF Y1>YB THEN B1=1:GOTO 2280
2270 IF Y1<YT THEN T1=1
2280 IF X2<XL THEN L2=1:GOTO 2300
2290 IF X2>XR THEN R2=1
2300 IF Y2>YB THEN B2=1:GOTO 2320
2310 IF Y2<YT THEN T2=1
2320 IF L1+L2=2 OR R1+R2=2 OR T1+T2=2
OR B1+B2=2 THEN RETURN
2330 X3=X1:Y3=Y1:X4=X2:Y4=Y2:GOSUB 239
0
2340 L1=L2:R1=R2:T1=T2:B1=B2
2350 X1=XW:Y1=YW:X3=X2:Y3=Y2:X4=X1:Y4=
Y1:GOSUB 2390
2360 IF X1<XL OR X1>XR OR Y1<YT OR Y1>
YB OR XW<XL OR XW>XR OR YW<YT OR YW>YB
 THEN RETURN
2370 PLOT X1,YB-Y1+YT:DRAWTO XW,YB-YW+
YT
2380 RETURN
2390 IF L1+T1+B1+R1=0 THEN XW=X3:YW=Y3
:RETURN
2400 IF L1 THEN XW=XL:YW=Y3+(Y4-Y3)*(X
L-X3)/(X4-X3):X3=XW:Y3=YW:IF Y3>=YT AN
D Y3<=YB THEN RETURN
2410 IF R1 THEN XW=XR:YW=Y3+(Y4-Y3)*(X
R-X3)/(X4-X3):X3=XW:Y3=YW:IF Y3>=YT AN
D Y3<=YB THEN RETURN
2420 IF B1 THEN YW=YB:XW=X3+(X4-X3)*(Y
B-Y3)/(Y4-Y3):X3=XW:Y3=YW:IF X3>=XR AN
D X3<=XL THEN RETURN
2430 IF T1 THEN YW=YT:XW=X3+(X4-X3)*(Y
T-Y3)/(Y4-Y3):X3=XW:Y3=YW:IF X3>=XR AN
D X3<=XL THEN RETURN
2440 RETURN
2999 REM * DUMP GR. 8 SCREEN TO PRINTE
R *
3000 SC=PEEK(88)+PEEK(89)*256
3010 LPRINT CHR$(27);"A";CHR$(6)
3020 FOR Y=0 TO 189 STEP 3:FOR X=0 TO
35 STEP 5:P=SC+40*Y+X:A$=CHR$(0):A$(12
0)=CHR$(0):A$(2)=A$
3030 A=USR(1539,P,ADR(A$)):LPRINT CHR$
(27);"L";CHR$(120);CHR$(0);A$;:NEXT X:
LPRINT :NEXT Y
3040 RETURN
3099 REM * ML ROUTINE USED IN PRINTER
DUMP *
3100 RESTORE 3110:FOR J=1536 TO 1635:R
EAD A:POKE J,A:NEXT J
3110 DATA 80,40,0,104,104,133,204,104,
133,203,104,133,206,104,133,205,169,0,
133,209,169,128,133,207
3112 DATA 169,3,133,212
3120 DATA 162,0,134,208,188,0,6,177,20
3,37,207
3122 DATA 240,6,165,212,5,208,133,208,
6,212,6,212,232,224,6,208,232,164,209,
165,208,10,145,205
3124 DATA 200,145,205,230,209,230,209,
200,145,205,230,209,234,234,234,234,23
4,234,234,234,70,207
3130 DATA 144,193,230,203,208,2,230,20
4,165,209,201,120,144,177,96
3140 RETURN
3998 REM * ML ROUTINE FOR GR. 8 CHARAC
TERS *
3999 REM * MODIFIED VERSION OF ANALOG
#23 P. 57 (OCT '84, TOM HUDSON) *
4000 RESTORE 4010:DIM T$(257):FOR J=1
TO 257:READ A:T$(J,J)=CHR$(A):NEXT J:T
ADR=ADR(T$):RETURN
4010 DATA 216,104,104,104,133,203,104,
104,133,204,169,0,133,205,6,204,38,205
,6,204,38,205,6,204,38
4020 DATA 205,165,204,24,101,88,133,20
6,165,205,101,89,133,207,6,204,38,205,
6,204,38,205,165,204,24
4030 DATA 101,206,133,206,165,205,101,
207,133,207,165,206,24,101,203,133,206
,141,126,6,165,207,105,0,133
4040 DATA 207,141,127,6,104,133,213,10
4,133,212,104,104,141,122,6,206,122,6,
104,104,141,124,6
4050 DATA 169,0,141,125,6,141,123,6,16
9,0,141,121,6,172,123,6,177,212,16,5,2
06,121,6,41,127,201,32
4060 DATA 176,5,24,105,64,16,7,201,96,
176,3,56,233,32,133,204,169,0,133,205,
133,208,6,204,38
4070 DATA 205,6,204,38,205,6,204,38,20
5,165,205,24,109,244,2,133,205,164,208
,177,204,77,121,6,172
4075 DATA 125,6,145,206
4080 DATA 230,208,165,208,201,8,240,15
,165,206,24,105,40,133,206,144,227,230
,207,208,223
4090 DATA 144,160,238,125,6,238,123,6,
206,122,6,48,43,173,125,6,205,124,6,20
8,22,169,0,141,125,6,24,173,126,6
4100 DATA 105,64,141,126,6,173,127,6,1
05,1,141,127,6,173,126,6,133,206,173,1
27,6,133,207,24,144,200,96
```

multiplication con't

```
1330 DATA DO IT AGAIN,SHARP,BRAVO
1340 DATA ** GO **,HUMDINGER,WOW,GOOD
1350 DATA SUPER,HOT DOG,FIRST RATE
1360 DATA TOP-NOTCH,JIM-DANDY,GREAT
1370 DATA SUPER FINE,TIP TOP,FAR OUT
1380 DATA FANTASTIC,SUPER STAR,WINNER
1390 DATA FIRST CLASS,BULLY FOR YOU
1400 DATA RED HOT,EXCELLENT,HOME RUN
1410 DATA THREE CHEERS,WELL DONE
1420 DATA HURRAY,CHAMPION,CRACKAJACK
1430 DATA CAPITAL JOB,BANG UP JOB
1440 DATA GOOD SHOW,MARVELOUS
1450 DATA GOOD AS GOLD
1460 REM .... Enter more messages here
....
1470 DATA END
```

FEBRUARY MEETING THE 13th SOUTH EUC.

HIGH at 7:30PM

DIFCONV by David Fuller

```
1 REM ******************************
2 REM DIF COVERSION FILE UTILITY
3 REM BY DAVID FULLER 9/6/84
4 REM ATARI ANONYMOUS OF RI
5 REM USER'S GROUP
6 REM 72 CRYSTAL DR
7 REM WARWICK, RI 02889
8 REM ******************************
10 TRAP 1210:GOSUB 1240:? "K";TTL$
20 REM  GET FILE NAME
30 ? "          by David Fuller"
40 ? :? " How many Drives (1 or 2) ";:
INPUT DRIVES
50 IF DRIVES(1 OR DRIVES)2 THEN GOTO 4
0
60 POSITION 2,6:? "1. Filemanager"
70 ? "2. Other"
80 ? :? "Enter Type of File ";:INPUT A
NSR$
90 IF ANSR$()"1" AND ANSR$()"2" THEN G
OTO 60
100 IF ANSR$="2" THEN TYP=2:GOTO 1000
110 TYP=1
120 ? :? " Insert Filemanager Data Dis
k"
130 ? "   in Drive 1 and press  RETURN
";:INPUT ANSR$
140 ? "K";TTL$:? :? "     Files on the
 Disk":? LIN$
150 INFIL$="D1:*.*":OPEN #1,6,0,INFIL$
160 INPUT #1;FLNAM$:IF FLNAM$(5,8)="FR
EE" THEN 190
170 IF FLNAM$(11,13)="DAT" THEN ? FLNA
M$(1,8);"    ";FLNAM$(14,17)
180 GOTO 160
190 CLOSE #1:? LIN$:? " Which File to
Convert ":? "     ";:INPUT ANSR$:INFIL
$="D:":INFIL$(3)=ANSR$
200 INFIL$(LEN(INFIL$)+1)=".FMT"
210 REM  GET AND DISPLAY FIELDS
220 ? "K";TTL$:POKE 752,0
230 OPEN #1,4,0,INFIL$
240 INPUT #1;NUMFLDS
250 INPUT #1;FLDN$
260 MAXLEN=0
270 FOR N=1 TO NUMFLDS:INPUT #1;A:FN(N
)=A:IF A)MAXLEN THEN MAXLEN=A
280 NEXT N:A=0
290 CLOSE #1:LE=LEN(INFIL$):INFIL$(LE-
3,LE)=".IDX":OPEN #1,4,0,INFIL$
300 INPUT #1;A:NUMR=A-1
310 FOR N=1 TO 4:INPUT #1;IDX1:NEXT N:
INPUT #1;IDX2:INPUT #1;IDX3
320 LINES=0:SCRS=1:SCR(1,1)=1:XX=0
330 FOR N=1 TO NUMFLDS:FT(N)=0
340 IF FN(N))100 AND FN(N)(106 THEN FN
(N)=14:FT(N)=1
342 IF FN(N))105 THEN FN(N)=FN(N)-105:
FT(N)=0
345 XX=XX+FN(N)
350 X=INT(FN(N)/25)
360 IF X=FN(N)/25 THEN LINES=LINES+X:G
OTO 380
370 LINES=LINES+1
380 IF LINES=20 THEN SCR(SCRS,2)=N-1:S
CRS=SCRS+1:LINES=0:SCR(SCRS,1)=N:XX=FN
(N):GOTO 390
385 IF XX)255 THEN SCR(SCRS,2)=N-1:SCR
S=SCRS+1:LINES=0:SCR(SCRS,1)=N:XX=FN(N
)
390 NEXT N:SCR(SCRS,2)=NUMFLDS
400 ? :? "File ";CHR$(34);INFIL$(3,LEN
(INFIL$)-4);CHR$(34);" has ";NUMR;" re
cords"
410 ? ,SCRS;" Screen(s)"
420 ? ,"Field names"
430 ? LIN$:A=0:B=5:C=3
440 FOR N=1 TO NUMFLDS*12 STEP 12:A=A+
1
450 B=B+1:IF A=11 THEN C=20:B=6
460 IF A=10 THEN C=2
470 POSITION C,B:? A;". ";FLDN$(N,N+11
)
480 NEXT N:POSITION 2,16:? LIN$
490 ? "  Is this the right File (Y/N)
";:INPUT ANSR$
500 IF ANSR$()"Y" THEN RUN
510 ? :? "How many records to convert
";:INPUT CPY
520 PASS=1:IF CPY(NUMR THEN PASS=2
530 START=1
540 INFIL$(LEN(INFIL$)-2)="DAT"
550 REM  WRITE DIF FILE
560 ? :? "  Enter name of output file"
:? "   up to 8 characters ";:INPUT ANS
R$
570 OUTFIL$="D":OUTFIL$(2)=STR$(DRIVES
):OUTFIL$(3)=":":OUTFIL$(4)=ANSR$:OUTF
IL$(LEN(OUTFIL$)+1)=".DIF"
580 IF DRIVES=1 THEN GOTO 610
590 ? :? "Insert Desitnation disk "
600 ? "   in Drive 2 and press  RETURN
";:INPUT ANSR$
610 ? "K";TTL$:? :? "     Processing..
."
620 POSITION 5,8:? "Total Records: ";N
UMR
630 POSITION 5,10:? "Field: ";:POSITIO
N 5,12:? "Record #:";
640 QUT$=CHR$(34)
650 OPEN #2,8,0,OUTFIL$
660 IF PASS=2 AND START)1 THEN GOTO 68
0
670 CLOSE #1:OPEN #1,4,0,INFIL$:NOTE #
1,SEC,BYTE
680 IF START()1 THEN CPY=NUMR
690 ? #2;"TABLE":? #2;"0,1":? #2;QUT$;
QUT$:? #2;"VECTORS":? #2;"0,";STR$(CPY
-START+1):? #2;QUT$;QUT$:? #2;"TUPLES"
700 ? #2;"0,";STR$(NUMFLDS):? #2;QUT$;
QUT$
710 ? #2;"DATA":? #2;"0,0":? #2;QUT$;Q
UT$
730 FOR Z=1 TO NUMFLDS
740 IF TYP=2 THEN POSITION 13,10:? Z:G
OTO 760
750 POSITION 13,10:? FLDN$(Z*12-11,Z*1
2);
760 ? #2;"-1,0":? #2;"BOT"
770 ST=ST+FN(Z)
780 FOR X=START TO CPY
790 POSITION 15,12:? X;"   ";
800 A=0:S=1:SPACES=0
810 INPUT #1;INPT$
815 IF ASC(INPT$(1,1))=255 AND SCRS=1
THEN GOTO 810
817 IF ASC(INPT$(1,1))=255 AND SCRS)1
THEN FOR X1=1 TO SCRS-1:INPUT #1;INPT$
:NEXT X1:GOTO 810
820 IF Z(SCR(S,1) OR Z)SCR(S,2) THEN A
=A+LEN(INPT$):INPUT #1;INPT$:S=S+1:GOT
O 820
830 IF FT(Z)=0 THEN GOSUB 1300:? #2;"-
1,0":? #2;QUT$;INPT$(ST-A-FN(Z)+1,SPAC
ES);QUT$
840 IF FT(Z)=1 THEN ? #2;"0,";VAL(INPT
$(ST-A-FN(Z)+1,ST-A)):? #2;"V"
850 IF S()SCRS THEN FOR XX=S+1 TO SCRS
:INPUT #1;INPT$:NEXT XX
870 NEXT X
880 IF Z=NUMFLDS THEN NOTE #1,SEC,BYTE
890 POINT #1,SEC,BYTE
900 NEXT Z
910 ? #2;"-1,0":? #2;"EOD":CLOSE #2
920 IF CPY=NUMR THEN GOTO 980
930 ? :? :? "Do you want to convert th
e rest of the":? "  records ";:INPUT A
NSR$:IF ANSR$(1,1)()"Y" THEN 980
940 POINT #1,SEC,BYTE
950 START=CPY+1:ST=0
960 IF DRIVES=2 THEN ? :? "Insert new
destination disk ":? " and press  RETU
RN  ";:INPUT ANSR$
970 ? "K";TTL$:GOTO 560
980 POSITION 5,19:? "  DONE  ":END
```

```
990 REM GET OTHER FILE INFO
1000 ? "ß";TTL$:? "   Convert Other File"
1010 ? :? "How many Fields in File ";:INPUT NUMFLDS
1020 ? :? "How many Records in File ";:INPUT NUMR:?
1030 ? :? "How many records to convert ";:INPUT CPY:?
1040 IF CPY<NUMR THEN PASS=2
1050 FOR Z=1 TO NUMFLDS
1060 ? "Length Field #";Z;:INPUT X:FN(Z)=X
1070 ? "Type of Field [String/Number] ";:INPUT ANSR$:IF ANSR$(1,1)<>"S" AND ANSR$(1,1)<>"N" THEN ? "S OR N":GOTO 1070
1080 IF ANSR$(1,1)="N" THEN FT(Z)=1:GOTO 1100
1090 FT(Z)=0
1100 NEXT Z
1105 A=0:FOR N=1 TO NUMFLDS:A=A+FN(N):NEXT N:IF A>255 THEN ? :? "Record length longer than":? " 255 characters":END
1107 SCRS=1:SCR(1,1)=1:SCR(1,2)=NUMFLDS
1110 ? "ß";TTL$:? :? "  #   Length  Type":? LIN$
1120 FOR Z=1 TO NUMFLDS:? "  ";Z;"    ";FN(Z);"          ";
1130 IF FT(Z)=0 THEN ? "String"
1140 IF FT(Z)=1 THEN ? "Number"
1150 NEXT Z:? LIN$
1160 ? :? "Are all entries Correct (Y/N) ";:INPUT ANSR$:IF ANSR$(1,1)<>"Y" THEN GOTO 1000
1170 ? "ß";TTL$:? :? "Enter name of Source File":? " example: TEST.DAT   ";:INPUT ANSR$
1180 INFIL$="D:":INFIL$(3)=ANSR$
1190 START=1
1200 ? "ß";TTL$:GOTO 560
1210 ERR=PEEK(195):ERLIN=PEEK(186)+256*PEEK(187):? :? "        ERROR ";ERR;" AT LINE ";ERLIN
1220 ? :? "  Press RETURN to continue ";:INPUT ANSR$
1230 RUN
1240 REM  SET UP VARIABLES
1250 ? "ß";:DIM TTL$(34):TTL$=" CONVERT TO DIF FILE UTILITY "
1260 DIM ANSR$(255),INFIL$(17),FLDN$(240),LIN$(40),CHGFLD$(12),FNCT$(40),FLNAM$(17),OUTFIL$(17),OUT$(1)
1270 DIM CHG$(255),INPT$(255),X$(1),STYPE$(2),FLD1$(255),FLD2$(255),FN(20),FT(20),SCR(10,2),TEST$(255)
1280 LIN$="----------":? LIN$:A=0:B=5:C=2
1290 RETURN
1300 TEST$=INPT$(ST-A-FN(Z)+1,ST-A):SPACES=ST-A
1310 FOR X1=LEN(TEST$) TO 1 STEP -1
1320 IF TEST$(X1,X1)<>" " THEN POP :RETURN
1325 SPACES=SPACES-1
1330 NEXT X1:SPACES=SPACES+1:RETURN
```

BLACKHOLE

CONT

```
940 POKE KEY,MT:? "Choice->";:GET #1,M:? M-48
950 IF  NOT (M=49 OR M=50) THEN W=USR(BELL):? "please choose either 1 or 2":? :GOSUB 1055:GOTO 940
960 ? :? "How many holes placed on grid? 1-6":?
970 POKE KEY,MT:? "Holes ->";:GET #1,N:HOLES=N-48:? HOLES
980 IF HOLES<1 OR HOLES>6 THEN W=USR(BELL):? "please choose from 1-6":? :GOSUB 1055:GOTO 970
990 ? :? "OK!":FOR X=0 TO 9:FOR Y=0 TO 9:A(X,Y)=0:NEXT Y:NEXT X
1000 IF M=50 THEN 1060
1010 ? "Give me the 'x,y' co-ordinates at the prompt '?' then hit RETURN":?
1020 FOR CH5=1 TO HOLES
1025 TRAP 1025
1030 ? CH5;"? ";:INPUT A,B:IF A(A,B)=1 THEN W=USR(BELL):? "points already chosen!":? :GOSUB 1055:GOTO 1030
1040 IF (A<1 OR A>8) OR (B<1 OR B>8) THEN W=USR(BELL):? "point(s) must be between 1-8":? :GOSUB 1055:GOTO 1025
1050 A(A,B)=1:NEXT CH5:TRAP 40000:GOTO 1090
1055 FOR DLY=1 TO 300:NEXT DLY:? "↑↑↑↑↑";:RETURN
1060 FOR PLC=1 TO HOLES
1070 B=INT(RND(0)*8)+1:C=INT(RND(0)*8)+1:IF A(B,C)=1 THEN 1070
1080 A(B,C)=1:NEXT PLC
1090 SCORE=0:CHR1=45:HOLE=0:P=0:S=0:EP$=""
1100 W=USR(BELL):? "ß":POSITION 13,0:? "  BLACKHOLE ":POSITION 28,0:? "hole(s)->";HOLES
1110 POSITION 11,3:? A$:FOR X=1 TO 14 STEP 2:POSITION 11,3+X:? B$:POSITION 11,4+X:? C$:NEXT X
1120 POSITION 11,18:? B$:POSITION 11,19:? D$
1130 RESTORE 1140:FOR CNR=1 TO 4:READ A,B:POSITION A,B:? "-":NEXT CNR:A=10:B=2:A1=A:B1=B:POSITION A,B:? "■"
1140 DATA 10,2,28,2,10,20,28,20
1150 GOTO 50
1153 REM
1154 REM .      ** initialize **
1155 REM
1160 DIM A(9,9),A$(20),B$(20),C$(20),D$(20),MKR$(20),EP$$(1):BELL=1536
1170 KEY=764:MT=255:BELL=1536:POKE 16,112:POKE 53774,112
1180 A$="┌┬┬┬┬┬┬┬┐"
1190 B$="│ │ │ │ │ │ │ │ │"
1200 C$="├┼┼┼┼┼┼┼┼┤"
1210 D$="└┴┴┴┴┴┴┴┴┘"
1220 MKR$="abcefghijklmnop"
1230 RESTORE 1240:FOR Z=0 TO 29:READ BYTE:POKE BELL+Z,BYTE:NEXT Z
1240 DATA 104,169,0,141,8,210,169,48,141,0,210,160,176,162,255
1250 DATA 142,10,212,202,208,250,136,140,1,210,192,160,208,240,96
1260 OPEN #6,4,0,"S:":OPEN #1,4,0,"K:":POKE 710,0:POKE 752,1:POKE 709,192:POKE 16,112:POKE 53774,112
1270 ? "ß":POSITION 14,10:? "BLACKHOLE":FOR A=-14 TO 14:POKE 709,206-ABS(A):FOR DLY=1 TO 10:NEXT DLY:NEXT A
1280 ? "ß":POSITION 18,10:? "by":POSITION 13,12:? "-ED SCHEMBRI-"
1290 FOR A=-14 TO 14:POKE 709,206-ABS(A):FOR DLY=1 TO 10:NEXT DLY:NEXT A:? "ß":FOR DLY=1 TO 30:NEXT DLY:GOTO 920
```

BUGBUSTERS

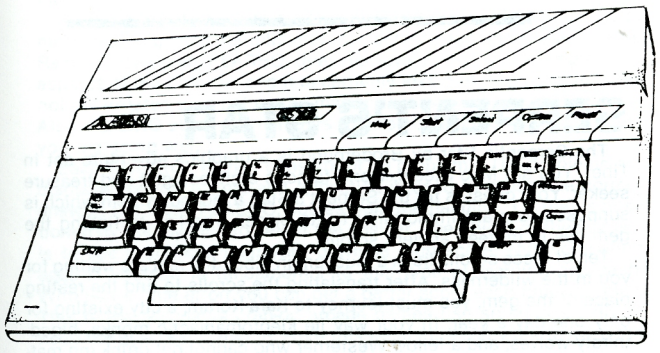
Here are the first people who have agreed to help others with their computing problems.

Greg Menke
22500 Old Hundred Road
Barnesville, MD 20838
Assembly Language

Ralph Walden
1821 Jefferson
Eugene, Or. 97402
(503) 344-8142
Assembly language
C

Jiva
(503) 747-9014
New users
Basic
Action

Please do not call any of these people after 10PM, local time.



News and Reviews
by Mike Dunn, Co-Editor

By now, most of you must know about all the exciting new computers from Atari; if not, you can read about them in this issue. We are all looking foward to seeing and playing with these fantastic machines, and will report the results as soon as possible. Our local dealer, Computer Palace is probably the largest remaining Atari dealer and should be one of the first to get them. Their new catalog is out, and if you want to get one of the first machines, you might contact them (2160 W. 11th Ave., Eugene, OR 97402, 1-800-452-8013). ACE will keep you posted, but, I'm afraid to announce, we need to increase fees because of increased postal expenses.

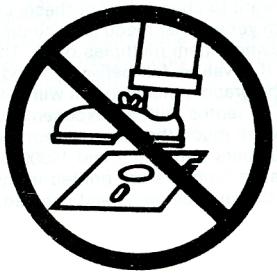
Starting March 15, 1985, ACE will be $14 a year. If you renew early, you can still do so for $12 if we get it before that date. To know when you have to renew, the number code on the mailing label is the month and year you last renewed, so your subscription is up the month before, eg. 2P4 means your renewal date is January, 1985. To encourage early renewals, so we can pay some bills, we have a special offer until March 15. An early renewal, plus any Disk or Tape in the library for only $20; $25 for a double sided disk!!

Speaking of disks, some new ones are going to be ready soon at the usual prices. ACE modem disk has several specialized programs, including a Atari 1030 Modem program allowing downloading and 2 versions of KERMIT, written in Action! and compilied and debuged by our friends at MicroBits -- one for their Modem and one for those using the 850 interface. Stan Ocker's complete XYPlot and XYGraph programs as described in this issue take up an entire disk and will be available. We also have a new "freeware" program, a Word Processor written in BASIC by Larry Farmer, available for the asking if your order has a spare disk side to put it on. Other "freeware" programs are The Financial DataBase by Richard Kalagher and RAM test a professional level program donated to ACE by MicroBits (225 3rd AVE. SW, Albany, OR 97321).

Robin Sherer, who used to be Santa Cruz Educational Software, has recently moved to Eugene and formed a new company, Computers Made Simple! (1974 Buck St., Eugene, OR 97405 (503)344-2767). Robin was one of the first people to write about the Atari, and started his Tricky Tutorials teaching many Atari owners to program. These consist of a disk or tape of programs, as well as a well written manual teaching various aspects of how your Atari works. Subjects include such things as Display Lists, Scrolling, Page Flipping (discovered and developed by Robin, I believe), PM graphics, etc. When they first came out they cost $30 and up, and were well worth it. Now, you can get them for only $9.95 each direct from Robin. He has many other utilities and programs for very low prices. And for those who have had problems getting his wonderful new book, The Master Memory Map, Robin will send it to you for the list price ($16) and he will pay the shipping. He also has his original 40 page version available to ACE members for only $4.

Another bargain this month is from LJK (7852 Big Bend Blvd., St Louis, MO 63119). You can get Letter Perfect with its built in spelling checker, Spell Perfect and Data Perfect for $99.95 for all three!

Ralph Walden's implementation of the C programming language, called "ACE-C", is available from the library. Complete documentation is on the disk. If you want to learn a new language, this is an excellent way to do it. You will need a book which explains how to program C in general. The documentation suggests a good one.



XYENTRY UPDATE

I seem to have made an oversight in writing 'XYENTRY'. I filled it with all sorts of fancy things; display list interrupts, PM graphics and even a timer program running in the background, forgetting I was planning to load in other programs from this one. So all of the fancy things have to be disconnected. I suppose it can be done but it's far easier to not have used the routines in the first place.

If you want to use 'XYENTRY' as given in the last issue, you can. Just create your file and then hit system reset and load 'XYPLOT' to graph it. If however you want to run 'XYPLOT' automatically from 'XYENTRY' the following changes are necessary:

(1) in line 20 use underscores instead of blanks in NBLK$

(2) enter line: 25 POKE 708,34:POKE 709,178:POKE 710,184:POKE 712,10:DLIST = PEEK(560) + 256*PEEK(561):POKE DLIST + 3,70:POKE DLIST + 6,6

(3) get rid of the GOSUB 3000 in line 30 and DELETE all lines above 2000

(4) replace the POKE 694,0 in line 310 with POS. COL-1,ROW:PRINT"";; and get rid of the POKE 694,0 in line 410

(5) line 420 should read: IF K = 155 THEN 500

(6) add OR K = 46 to the others in line 360

(7) delete lines 899 through 920 and any references to these lines (there are quite a few)

(8) add a semicolon to the end of the print statement in line 1082

(9) copy lines 80-84 and 742 from 'XYPLOT'

(10) line 170 should read: ?CHR$(125):POS. 10,10:?"LOADING XYPLOT":RUN"D:XYPLOT"

You should of course have 'XYPLOT' on your disk. These and a few minor cosmetic changes should allow you to run either program from the other. The slow initialization time of 'XYPLOT' can be helped by putting the ML program in strings. The result (I've done it) is all but unreadable in print though so I've provided the DATA statement listing for printing in the newsletter.

— Stan Ockers

XYGRAF PART II

XYPLOT' is the graph drawing portion of 'XYGRAF'. It takes files of X-Y data from disk and converts them to X-Y graphs on the screen. Provision has been included for dumping the screen to a Gemini 10X print (an Epson MX80 with Graftrax should work as well). You may plot more than one file on the same screen. Any points falling outside the limits determined for the initial plot will be clipped. Points may be plotted individually or a line connecting point-to-point may be selected.

When the program is initialized, a set of data from disk may be read in automatically. You will be presented with a number of options. If you wish a different .DAT file select number (1). Option (3) will list all .DAT files on the disk. Selection (2) will plot a graph and provide axes. Scaling will be done using the minimum and maximum values of X and Y as limits. Any previous graph will be cleared when using this option.

You may wish to choose your own limits, provide axes titles and choose point or line plotting. If so, select option (4) before using (2). If you wish to draw a line plot as well as marking individual data points, you can use option (2) for one, (say line), go to the choices menu (4) and switch to the other. When you return to the main menu, option (5) can be used to add the points. Option (5) can also be used after loading additional files from disk to give multiple curves on one graph. Remember, the limits will be those determined when first using option (2) and any points outside these limits won't appear.

Any time you want to display the graphics screen use option (6). It will be displayed until another key (I use the spacebar) is pressed. Selection (7) prints the screen to a Gemini 10X printer. The pixels are tripled up horizontally and doubled up vertically for 960 X 384 dots. This takes a little while so be patient. You can clear the graphics screen using option (8). You may wish to do this if you want to plot a curve without axes. If your data needs to be changed, option (9) will automatically load 'XYENTRY'.

Choice (4) of the main menu brings up another menu providing a number of options. The first lists the current values of the limits of X and Y. If you want to change any of these, choose (1) and you will be presented with yet another menu. As you pick limits try and make the difference between them multiples of 10. This will give you the best scale values. If Y values fall between 1 and 1000 they will be listed normally on the graph, otherwise you will get numbers between 1 and 10 expressed to tenths with an exponent in the lower left corner. X scale values work much the same except there is a little more room so you get numbers between 1 and 10000 or decimal values to hundredths. Negative numbers are printed in inverse. The spacebar will return you to the choices menu and used again will return you to the main menu.

Titles may be placed on the axes or across the top (graph title) using choices 2,3 or 4. The titles will be approximately centered on the axes. You may choose either a full grid or just tic marks by toggling with choice 5. The final choice (6) determines if just points or a line between points will be plotted.

I haven't had time to extensively test this program so be sure to let me know of any bugs or suggestions for improvement.

— Stan Ockers
R.R. #4, Box 209
Lockport,IL 60441

NOTES:

The material from Stan Ockers is unusually voluminous this month. We are able to present only part of his listings in the newsletter. If you want the whole diskfull of programs, you may obtain it from the club Librarian.

We omitted a second listing to use with the Computer Appliance Interface from last month. This listing is an automatic telephone dialer. Look for it in this issue.

SERPENT'S STAR

The Serpent's Star by Broderbund is a graphics adventure set in Tibet. You are Mac Steele, world famous archaeologist and treasure seeker. Your quest is for the Serpent's Star, a legendary gem which is supposed to grant immortality to its owner. The key to finding the gem lies in thirteen ancient scrolls.

Ten of these scrolls lie in a museum in Tibet, the rest are waiting for you in the wilderness. After translating the scrolls to find the resting place of the gem, you must journey to Kara-Koram, a city existing for only one day a year. In your way lie kleptomaniactic monks, bloodthirsty wolves, and a fellow Westerner who cannot get drunk (no matter how many drinks you buy him). Are you man enough to handle these challenges?

Now for the nitty-gritty. The Serpent's Star is an adventure using typed commands, with an added graphics package designed to aid in the adventure, as well as making the whole lot more enjoyable and less the eyesore straight text adventures can be. The program includes an on/off toggle for sound, although I didn't find much sound anyway. The road graphics are o.k., pretty much the same scenes no matter which road you are on. There are some outstanding graphics in other areas, which more than balance out the not-so-good portions.

The adventure itself is good, but many adventures are very similar, so you play one and you've played 90% of them all. The vocabulary the computer uses is the standard package, with the usual "speciality" words applying only to this adventure thrown in (i.e. Buddha, scrolls).

Overall, I call this adventure o.k. to good. I find nothing outstanding to just rip me away from something else, but it is a nice change from the usual routine.

— Aaron Ness

MULTIPLICATION FLASHO

Every year grade school children across the land renew their efforts to master the multiplication facts. For a few it is easy, but for most it ranges from hard to down right nasty. My youngest daughter was quickly convinced it was simply impossible. Flashcards helped some but it was still a bit of a teeth gritting experience for all involved. I decided to try to write a flash card program to be fun, friendly, and not too childish for a grownup fourth grader. The result was FLASHO. Its immediate success was a bit of a surprise to everyone. However, no one was more surprised and pleased than my daughter, the new record holder for the fourth grade multiplication speed test.

As you probably recall, a traditional flashcard drill works something line this: First the teacher displays a card giving a multiplication problem, say 6x7 = ?. You are given a few seconds to come up with an answer (speed is important since it doesn't help much if you have to do the problem on your fingers). If your answer is correct then everyone is happy. However, if the you are wrong, then (a) The teacher gives the correct answer, trying not to groan because this is the seventeenth wrong answer so far. (b) You feel increasingly uncomfortable because your lack of skill is so openly exposed. Isn't this fun! Now you remember why you always enjoyed this little exercise so much.

Now, I am not going to try to convince you FLASHO is going to make learning the multiplication facts more fun than playing Star Raiders. However, FLASHO does remove some of the unpleasant aspects of the process, and it is certainly less dull. The program does not get irritated or impatient no matter how many mistakes you make. Also, FLASHO always remembers to give you a pat on the back when you are doing well.

Each FLASHO "game" consists of 48 problems. The problems are displayed one at a time and a joystick is used to select the correct answer. The name FLASHO, comes from the flashing "O" that is positioned by the joystick to select the answer. The object of the "game" is to see if you can beat your previous high score. This competing against yourself is fundamental to this type of learning approach. With just a little effort you can get a better score each time you play. This is the technique coin-op arcade games use so successfully to keep the quarters rolling in. Here this technique can work to keep the student going a bit longer.

The object of FLASHO as a teaching aid is to assist the student to memorize the multiplication facts. For this reason, quick correct answers get more points than slow correct answers. Also, no points are deducted for incorrect answers (remember, the program does not get irritated with a slower learner). You can get a higher score by going quickly and missing a few problems than by going slowly and getting them all right. This emphasis on quick recall is important since it forces you to memorize the answers to get the highest scores. Counting on your fingers literally does not count for much with FLASHO.

USING THE PROGRAM

When you first run FLASHO you are asked to enter the highest multipliers to are to be used in the drill. For example if an 8 is entered, the problems will range from 2x2 to 8x8. Each game consists of 48 problems selected at random. When a problem is presented, use the joystick to point to the answer, and use the trigger to confirm your selection. It usually takes a couple of games to get the feel of the stick and then it becomes second nature. If your the answer is correct you get a "yes" beep and it's on to the next problem. If the answer is wrong, you get a "no" tone and the correct answer is displayed. After each answer the score is updated and the time to respond to the last problem is displayed.

Since the program emphasizes speed, you will get a rest break after each 12 problems. Pressing the START key starts the next set of 12 problems. At the end of four sets you can press START to begin a new game or OPTION to end. When you end the program, a table is displayed showing the number of correct and incorrect answers for each problem. This table can be helpful to both the teacher and student since it clearly shows the areas that need special work.

HOW THE PROGRAM WORKS

FLASHO is 100 percent BASIC and uses graphics mode 1. The following "take-apart" discusses the various sections of the program in the order in which they are run.

Lines 710-790: Introduction and Prompt for user to enter highest multipliers to be used.

800-930: Draws the static part of the display and initializes program variables.

1250-1470: Stores the pat-on-the-back messages in S$ for easier access. Additional messages can be added at line 1460. S$ has space for up to 100 14-character messages. The last message must be "END".

940-1130: Starts a new game if the START key is pressed (see line 150) or ends the program if the OPTION key is pressed. When the program is ended, the right/wrong counters are displayed by lines 1140-1240.

150-260: Starts a set of 12 problems. Problems are selected at random. A special check is made to try to avoid repeated a problem if it has already been answered correctly.

270-430: Joystick handling routine. Joystick 1 is used to position a flashing "O" to desired answer.

440-490: Response to incorrect answer. The correct answer is displayed for several seconds before going on to the next problem.

500-560: Response to correct answer.

570-650: Display current score and time required to answer last problem.

660-700: Display a pat-on-the-back message after four correct answers in a row.

NOTE FOR XL COMPUTER USERS

If you are using an Atari XL computer, you need to make a change on line 610. Change the value 4.65 to 5.39. This change compensates for fact that FLASHO runs about 15 percent faster on an XL computer than it does on the earlier models.

— J. A. Carr

BLACKHOLE

Converting popular board games to the ATARI, has become a favorite pastime of mine. One such game, which has become a hit among my friends and I, is called Blackhole. It's a take-off of a game called Blackbox, I saw some time ago.

The object of the game, is to find 1-6 holes, hidden in an 8x8 grid. This is done by injecting light rays into the grid, analyzing the results, then logically pinpointing the locations of the hidden holes.

The path the ray will make through the grid is simple. A ray will either be 'A' - absorbed, 'R' - reflected, or 'a.a b.b etc.' - refracted (remember your high school physics?).

Absorbed means hitting a blackhole dead-on causing the ray to be swallowed up. Refracted means the ray has come within 1 square to the left or right of its path, causing it to refract 90 degrees away from the hole, and resume movement until it exits the grid or meets another hole (confused yet?). Reflected means the ray has come out the same place it was shot in.

Movement around the perimeter and through the grid is done by the 4 arrow keys, (without the ctrl key). The ESCAPE key toggles you in and out of the game grid. The RETURN key will shoot a ray into the grid, if you are on the perimeter, or place/erace a dot, to indicate to the computer where you think the hole is, if you are inside the grid. Finally, pressing the SPACE BAR, in or out of the grid, will give you a prompt asking if you want to see the final outcome. (choose 'Y' after you've marked all the holes in the grid, or if you give up). Hitting any other key or wrong input during the game, will produce a bell like tone.

A point is added to your score for every ray result around the perimeter, and 3 for every hole you placed incorrectly. When the computer shows the results, there will either be a; (i) dot - correct placement (yipee!), (ii) diamond - a hole location you didn't choose, or (iii) cross - you chose it but the hole wasn't there. The lower your overall score the better.

I realize the game seems complicated but it isn't. The best way to learn it, is to select to place your own holes, at game start, then watching the way the rays react to the known hole locations. Start with 1 then build up until you think you understand it. Then let the computer choose the locations up to a limit of an insane 6. There are a few other little nuances in the game you'll discover only by playing it. Hope you like it . . . it will surely grow on you!!

— ED SCHEMBRI

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